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EXAMINER

LEUNG, JENNIFER A

ART UNIT PAPER NUMBER

1764

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,788

Applicant(s)

PECK, BILL J.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 22-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-39 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/04/02;04/22/02</u> . | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-21, in the reply filed on March 25, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 22-39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### ***Drawings***

3. The informal drawings are of sufficient quality to permit examination. However, formal replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear as to the relationship between “an array of biopolymer features on a support” in lines 8-9 and “an array of biopolymers on a support” as set forth in the preamble. It is further unclear as to what is meant by “biopolymer features” and where such “features” are disclosed in the specification and drawings.

Regarding claim 4, “honeycomb features” (line 5) lacks proper positive antecedent basis. It is further unclear as to what is meant by “honeycomb features” and where such “features” are disclosed in the specification and drawings.

Regarding claim 7, it is unclear as to the additional structural limitation applicant is attempting to recite by, “said reagents are reagents for synthesizing an array of oligonucleotides on said support” because “said reagents” are not considered an element of the apparatus.

Regarding claim 14, it is unclear as to the relationship between “a wall” in line 2 and “a wall” as set forth in claim 1, line 7.

Regarding claim 15, it is unclear as to the relationship between “a mechanism” in line 2 and “a mechanism” as set forth in claim 1, line 10. Likewise, the relationship between “a support” in line 2 and “a support” as set forth in claim 1, line 9. Likewise, the relationship between “an array of biopolymer features” in line 3 and “an array of biopolymer features” as set forth in claim 1, lines 8-9.

Regarding claim 16, it is unclear as to the relationship between “a device” in line 2 and “a device” as set forth in claim 1, line 8. Likewise, the relationship between “an array of biopolymer features” in line 3 and “an array of biopolymer features” as set forth in claim 1, lines 8-9. Likewise, the relationship between “a support” in line 3 and “a support” as set forth in claim 1, line 9.

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Regarding claim 17, it is unclear as to the relationship between “a wall” in line 1 and “a wall” as set forth in claim 1, line 7. Also, “said outlet element” in line 2 lacks proper positive antecedent basis.

Regarding claim 20, it is unclear as to the additional structural limitation applicant is attempting to recite by, “said gas is introduced into said manifold at a pressure of about 60 to about 80 psi” because “said gas” is not an element of the apparatus, and the pressure of the gas is a process limitation that holds no patentable weight in apparatus claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5, 7-10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagener et al. (US 6,251,195) in view of Sharma et al. (US 5,195,888).

Regarding claims 1 and 21, Wagener et al. (FIG. 1; column 5, line 39 to column 7, line 64) discloses an apparatus comprising a chamber (i.e., process chamber 12) comprising an opening (i.e., chamber valve 28) in a wall thereof; a device (i.e., nozzle 20) for dispensing reagents on a support (i.e., wafer 18), at least a portion of said device 20 being within said chamber 12; and a mechanism (i.e., transfer robot 50) for moving said support 18 into and out of said chamber 12 through said opening 28 and for positioning said support 18 relative to said device for dispensing reagents 20. Wagener et al. (column 9, line 22 to column 10, line 28)

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further discloses an element (i.e., diffuser **32**) for diffusing gas within said compartment **12**, wherein the “diffuser **32** is used to create... an evenly distributed flow **30** of gas, referred to as a “curtain flow” of gas,” (column 9, lines 48-50). Wagener et al., however, is silent as to the diffuser **32** comprising a manifold including at least two compartments, wherein each of said compartments is in fluid communication with a respective gas inlet, wherein a perforated element is in fluid communication with said manifold, and wherein one or more elements for diffusing gas is located within each compartment.

Sharma et al. (embodiment of FIG. 7-10; column 8, line 29 to column 9, line 16) teaches an apparatus for dispersing a gas as a multi-layer fluid curtain, wherein the apparatus comprises a manifold including at least two compartments (i.e., housing **48**, defining two compartments; see FIG. 9, 10), wherein each of said compartments is in fluid communication with a respective gas inlet (i.e., a fluid inlet **44**, shown in FIG. 7), wherein a perforated element (i.e., a screen **52**) is in fluid communication with said manifold, and wherein one or more elements for diffusing gas (i.e., a tubular body **42**) is located within each compartment.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the apparatus for dispersing gas of Sharma et al. for the diffuser **32** in the apparatus of Wagener et al., on the basis of suitability for the intended use, because the fluid curtain as emitted by the apparatus of Sharma et al. possesses two layers that act cooperatively to stabilize the laminar flow in each layer over a longer distance, thereby extending the effective area of coverage of the layers (see column 2, lines 41-50). Also, the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967);

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*In re Ruff* 118 USPQ 343 (CCPA 1958).

Regarding claim 2, Sharma et al. is silent as to the perforated element **52** comprising, specifically, about 5 to about 200 perforations per square inch. However, Sharma et al. further discloses that, “screen **52** may be any perforated surface which produces little pressure drop... Wire mesh with from 1 to 50 openings per centimeter functions well.” (column 8, lines 56-59). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select about 5 to about 200 perforations per square inch for the perforated element in the modified apparatus of Wagener et al., on the basis of suitability for the intended use thereof, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233.

Regarding claim 3, Sharma et al. is silent as to the perforated element **52** being about 0.2 to about 2 inches thick and the diameter of each of said perforations being about 0.03 to about 0.25 inches. However, Sharma et al. further discloses that, “screen **52** may be any perforated surface which produces little pressure drop... Wire mesh with from 1 to 50 openings per centimeter functions well,” and, “In addition to mesh, perforated plates and sintered metal surfaces are usable,” (column 8, lines 56-67). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select a thickness of about 0.2 to about 2 inches and a perforation diameter of about 0.03 to about 0.25 inches for the perforated element in the modified apparatus of Wagener et al., on the basis of suitability for the intended use thereof, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In*

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*re Aller*, 105 USPQ 233. Also, changes in size merely involves ordinary skill in the art.

Regarding claim 5, Wagener et al. discloses that, “[d]iffuser 32 can be positioned in a number of locations within chamber 12 as may be desired for a particular application. In addition, diffuser 32 may be adjustably mounted within the chamber 12.” (column 6, lines 31-37). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to locate the perforated element opposite the opening 28 in the modified apparatus of Wegner et al. on the basis of suitability for the intended use. Furthermore, it has been held that the shifting of location of parts merely involves routine skill in the art.

Regarding claim 7, the modified apparatus of Wagener et al. structurally meets the claims, since the reagents are not considered an element of the apparatus.

Regarding claim 8, Sharma et al. teaches said gas inlets (i.e., inlets 44; FIG. 7) being oriented with respect to said respective compartments of said manifold (i.e., as defined by housing 48) such that gas enters said respective compartments in a direction that is substantially normal to the direction in which gas exits said manifold (i.e., gas enters via inlet 44 and gas exits through housing outlet 50 and perforated element 52; see FIG. 7).

Regarding claims 9, 18 and 19, Sharma et al. further teaches that three or more diffusers may be stacked to issue a curtain of three or more layers (column 2, lines 60-63; column 5, lines 32-35). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide at least four compartments to the manifold in the modified apparatus of Wagener et al., on the basis of suitability for the intended use (e.g., for issuing a curtain of four or more layers). In addition, the duplication of part was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ

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378 (CCPA 1960). In the case of the apparatus having at least four compartments, the apparatus would thus comprise at least four gas inlets (i.e., similar to gas inlets 18 and 24; see FIG. 1), wherein each of said gas inlets comprises a valve (i.e., similar to the means 19 and 25 for controlling the fluid flow; see FIG. 1).

Regarding claim 10, the chamber 12 of Wagener has a vertical symmetry (see FIG. 1).

Regarding claims 12 and 13, Wagener et al. (FIG. 1; column 6, line 64 to column 7, line 24) further discloses a controller for controlling the movement of said mechanism 50 for moving said support 18 (by definition, a “robot” will comprise some sort of control means; e.g., for controlling the disclosed X-Y directional movements or Z-direction movement), wherein said mechanism 50 is a robotic arm (see FIG. 3).

Regarding claims 14 and 15, Wagener et al. (FIG. 1-4; column 8, lines 51-65) further discloses said opening 28 comprises a door (i.e., door shown closed in FIG. 2 and 4; door shown open in FIG. 3), wherein the dimensions of said door are sufficient to permit ingress and egress of a mechanism 50 for holding a support 18 (see FIG. 3).

Regarding claim 16, although Wagener et al. (FIG. 1) is silent as to the dimensions of said door 28 being sufficient to permit ingress and egress of a device 20 for dispensing reagents on a support 18, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select appropriate dimensions for said door 28 in the modified apparatus of Wagener et al., on the basis of suitability for the intended use thereof, because it has been held that changes in size involve only ordinary skill in the art. *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955).

Regarding claim 17, Wagener et al. discloses said door 28 is in a wall of said chamber 12

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opposite to an outlet element (i.e., an opening for evacuating the chamber 12 with vacuum pump 40, via valves 42 and 44; column 6, lines 47-63; FIG. 1).

Regarding claim 20, the modified apparatus of Wagener et al. structurally meets the claims, since the gas pressure is not considered an element of the apparatus.

6. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wagener et al. (US 6,251,195) in view of Sharma et al. (US 5,195,888), as applied to claim 1 above, and further in view of Vogel (US 5,590,537).

Regarding claim 4, Sharma et al. is silent as to the perforated element 52 being about 0.02 to about 2 inches thick. However, Sharma et al. further discloses that, "screen 52 may be any perforated surface which produces little pressure drop... Wire mesh with from 1 to 50 openings per centimeter functions well," and, "In addition to mesh, perforated plates and sintered metal surfaces are usable," (column 8, lines 56-67). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select a thickness of about 0.02 to about 2 inches for the perforated element in the modified apparatus of Wagener et al., on the basis of suitability for the intended use thereof, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233. Also, changes in size merely involves ordinary skill in the art.

In addition, the collective teachings of Wagener et al. and Sharma et al. are silent as to the apparatus comprising a honeycomb element in fluid communication with said perforated element wherein the thickness of said honeycomb element is about 1 to about 1.5 inches and wherein the ratio of length of said honeycomb element to honeycomb features is at least about 7

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to 1. Vogel (column 3, lines 20-42; FIG. 1) teaches an apparatus for dispersing a gas as a fluid curtain, said apparatus comprising a honeycomb element **30**, wherein the length of the honeycomb cells **32** should be sufficient to ensure that the flow from each cell is laminarly developed and parallel. For example, each cell channel has an aspect ratio of length to average diameter between about 20 and 60, e.g., 3 cm length and 1 mm diameter for a ratio of 30. It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the honeycomb element of Vogel to the modified apparatus of Wagener et al., on the basis of suitability for the intended use, because the honeycomb element ensures that the fluid curtain flows in a laminar and parallel fashion, as taught by Vogel.

7. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagener et al. (US 6,251,195) in view of Sharma et al. (US 5,195,888), as applied to claim 1 above, and further in view of Yamamoto (JP 63-296845).

Wagener et al. is silent as to the walls of said chamber **12** leading to said wall comprising said opening **28** being tapered, or the angles in the interior of said chamber being beveled. Yamamoto (FIG. 4, third illustration) teaches a chamber comprising a tapered wall **14** leading to a wall comprising an opening **13**, the tapered wall **14** defining a beveled angle in the interior of said chamber. It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide tapered walls or beveled angles in the chamber of the modified apparatus of Wagener et al., on the basis of suitability for the intended use, because the tapered walls or beveled angles would help guide the flow of fluid from the interior of the chamber to the chamber outlet, as evidenced by Yamamoto.

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8. Claims 1-3, 5, 7-10, 12, 13 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamble et al. (US 5,981,733) in view of Sharma et al. (US 5,195,888).

Regarding claims 1 and 21, Gamble et al. (FIG. 9, 10, 14; column 8, line 34 to column 10, line 37; column 11, line 62 to column 13, line 63) discloses an apparatus comprising: a chamber (i.e., second section **104**; FIG. 9) in fluid communication with said gas outlet port **194**, said chamber **104** comprising an opening in a wall thereof (i.e., a horizontal slot **140**; FIG. 10); a device for dispensing reagents (i.e., jetting system **24**, with jetting device **46**; FIG. 9, 10), at least a portion of said device **46** being within said chamber **104**; and a mechanism (i.e., positioning system **30**, with rotational support rod **106**; column 8, lines 52-59) for moving a support (i.e., substrate **20**) into and out of said chamber **104** through said opening **140** and for positioning the support **20** relative to said device for dispensing reagents **24**. Gamble et al. is silent as to the gas outlet port **194** comprising a manifold including at least two compartments, wherein each of said compartments is in fluid communication with a respective gas inlet, wherein a perforated element in fluid communication with said manifold, and wherein one or more elements for diffusing gas is located within each compartment.

Sharma (embodiment of FIG. 7-10; column 8, line 29 to column 9, line 16) teaches an apparatus for providing a selected atmosphere within a contained volume, wherein the apparatus comprises a manifold including at least two compartments (i.e., housing **48**, defining two compartments; see FIG. 9, 10), wherein each of said compartments is in fluid communication with a respective gas inlet (i.e., a fluid inlet **44**, shown in FIG. 7), wherein a perforated element (i.e., a screen **52**) is in fluid communication with said manifold, and wherein one or more elements for diffusing gas (i.e., a tubular body **42**) is located within each compartment.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the apparatus for providing a selected atmosphere of Sharma et al. for the gas outlet port 194 in the apparatus of Gamble et al., on the basis of suitability for the intended use, because the fluid curtain as emitted by the apparatus of Sharma et al. possesses two layers that act cooperatively to stabilize the laminar flow in each layer over a longer distance, thereby extending the effective area of coverage of the layers (see column 2, lines 41-50).

Regarding claim 2, Sharma et al. is silent as to the perforated element 52 comprising, specifically, about 5 to about 200 perforations per square inch. However, Sharma et al. further discloses that, "screen 52 may be any perforated surface which produces little pressure drop... Wire mesh with from 1 to 50 openings per centimeter functions well." (column 8, lines 56-59). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select about 5 to about 200 perforations per square inch for the perforated element in the modified apparatus of Gamble et al., on the basis of suitability for the intended use thereof, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233.

Regarding claim 3, Sharma et al. is silent as to the perforated element 52 being about 0.2 to about 2 inches thick and the diameter of each of said perforations being about 0.03 to about 0.25 inches. However, Sharma et al. further discloses that, "screen 52 may be any perforated surface which produces little pressure drop... Wire mesh with from 1 to 50 openings per centimeter functions well," and, "In addition to mesh, perforated plates and sintered metal surfaces are usable," (column 8, lines 56-67). Thus, it would have been obvious for one of

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ordinary skill in the art at the time the invention was made to select a thickness of about 0.2 to about 2 inches and a perforation diameter of about 0.03 to about 0.25 inches for the perforated element in the modified apparatus of Gamble et al., on the basis of suitability for the intended use thereof, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233. Also, changes in size merely involves ordinary skill in the art.

Regarding claim 5, in the modified apparatus, opening **140** is in a wall of said chamber **104** opposite to the perforated element (i.e., located at the dry gas outlet port **194**).

Regarding claim 7, the modified apparatus of Gamble et al. structurally meets the claims because the “reagents” are not considered an element of the apparatus. In any event, Gamble et al. further discloses reagents (i.e., from reagent supply unit **120**) for synthesizing an array of oligonucleotides on said support **20** (see column 2, lines 14-16; column 4, lines 40-46).

Regarding claim 8, Sharma et al. teaches said gas inlets (i.e., inlets **44**; FIG. 7) being oriented with respect to said respective compartments of said manifold (i.e., as defined by housing **48**) such that gas enters said respective compartments in a direction that is substantially normal to the direction in which gas exits said manifold (i.e., gas enters via inlet **44** and gas exits through housing outlet **50** and perforated element **52**; see FIG. 7).

Regarding claims 9, 18 and 19, Sharma et al. further teaches that three or more diffusers may be stacked to issue a curtain of three or more layers (column 2, lines 60-63; column 5, lines 32-35). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide at least four compartments to the manifold in the modified apparatus of Gamble et al., on the basis of suitability for the intended use (e.g., for issuing a

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curtain of four or more layers). In addition, the duplication of part was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960). In the case of the apparatus having at least four compartments, the apparatus would thus comprise at least four gas inlets (i.e., similar to gas inlets **18** and **24**; see FIG. 1), wherein each of said gas inlets comprises a valve (i.e., similar to the means **19** and **25** for controlling the fluid flow; see FIG. 1).

Regarding claim 10, Gamble et al. discloses said chamber **104** has vertical symmetry (i.e., being that the chamber **104** comprises a square cross-section; see FIG. 9, 10).

Regarding claims 12 and 13, Gamble et al. discloses a controller for controlling the movement of said mechanism for moving said support 20 (i.e., positioning system 30 comprises an X-Y stepper stage **108** and a rotational stepper **110**, driven by stepping motors **112a** and **112b**; column 8, line 52 to column 9, line 34; FIG. 9), wherein said mechanism is a robotic arm (i.e., the rotating support rod **106**, with substrate holder **22**).

Regarding claim 20, the modified apparatus of Gamble et al. structurally meets the claims, since the gas pressure is not considered an element of the apparatus.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Lebl et al. and Stehling are provided to illustrate the state of the art. Hilson et al., Bass et al. and Peck are provided to illustrate applicant's related inventions.

\* \* \*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449.

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The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung  
June 7, 2005 *jal*

*Hien Tran*  
HIEN TRAN  
PRIMARY EXAMINER